

Abstract Submitted
for the 1995 APS Topical
Conference on Shock Compression
of Condensed Matter

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Suggested title of session
in which paper should be placed:
Advances in Experimental
Techniques

Investigation of Thin Laser-Driven Flyer
Plates Using Streak Imaging and Stop Motion
Microphotography. A. M. Frank, Lawrence Livermore
National Laboratory, W. M. Trott, Sandia National
Laboratories*-- The dynamic behavior of laser-
accelerated flyers is a crucial factor in determining
their utility as impactors in studies of high-
velocity, short-pulse shock compression. While nearly
planar launch conditions can be achieved with optical
fiber coupling of laser energy to thin flyer targets,
high-speed optical imaging reveals a number of
significant multidimensional effects, including flyer
"tilt" and fine-structure non planarity (arising from
modal noise in the intensity distribution). With very
thin targets, rapid breakup and ionization of the
flyer occurs. The time delay from onset of flyer
motion to breakup and or ionization increases with
flyer thickness and with decreasing incident energy.
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